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Ontario Department of Education

MIDSUMMER EXAMINATIONS
1916

Reports of Departmental and Matriculation Associate Examiners

RE

The Character of the Candidates' Answers

AND

The Teaching of the Subjects in the Schools

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Departmental Examinations

As announced in 1915, each year after the answer papers at the Departmental examinations have been read by the Associate Examiners, each Section reports to the Minister any criticisms it has to offer of the question papers, the conduct of the examinations, and the teaching as judged by the candidates' answers. The criticisms that directly affect the Department the Minister has found to be useful, and this year he continues the publication of a summary of such of the chief criticisms of the answer papers as, in his judgment, are also likely to prove useful to the teachers.

In most departments the answering appears to be improving from year to year; but, although no doubt very many of the defects are due to the inadequacy of the time spent by candidates in preparation for the examinations and to laxity on the part of some High School Entrance Boards, there is evidently room for further improvement. In all the work greater attention should be given to spelling, writing, composition, accuracy, diagrams, system, and reviews. Generally speaking, under present conditions the question papers are difficult enough, and manifestly any raising of their standard should be gradual and commensurate with the progress of the schools. Present conditions, however, will justify the Minister in continuing, as he intends, to direct the Associate Examiners to adopt next summer a high standard in estimating the values of the answers. With the exception of the Public and Separate School Diploma and the High School Entrance examinations, all the Departmental academic examinations are held to test the fitness of the candidates for admission to the Professional Schools for teachers. The evidence in the hands of the Minister demonstrates clearly the necessity for the steps he is taking to secure on the part of our teachers before they enter these schools an accurate and comprehensive knowledge of the prescribed subjects.

Teachers will also find it profitable to read in this connection Circular No. 66, of 1915, of which the present circular is the counterpart.

October, 1916.

Lower School Examinations

SPELLING

1. In many instances the candidates' answer papers in spelling showed that they had had very little practice in writing from dictation.

2. One letter of a word was often written over another, thus making it difficult to decide what the candidate's final decision was.

ENGLISH GRAMMAR

1. There has been marked improvement in the character of the candidates' answers in English Grammar in regard to both form and quality.

2. The exact meaning of the term "grammatical value" does not appear to be understood.

3. The parsing of prepositions and conjunctions has been somewhat neglected.

4. The spelling is too often very poor. The consequent deduction of marks reduces considerably the value of the answers.

HISTORY

1. The answers to the questions on British history showed a more definite knowledge than did those on Canadian history. This may have been due to the fact that the British history had been studied more recently, and to the inadequate review of the Canadian history taught in the first year.

2. The answers to the questions on Civics showed insufficient stress on that part of the work.

3. On the whole, however, the answers were more to the point than were those of previous years.

GEOGRAPHY

The candidates' answers in Geography indicate that the teaching has been generally satisfactory, the work in Physical Geography showing an improvement on that of last year. The answers to the first question, however, show that the teaching of the important subject of Map Geography has not received sufficient attention.

ELEMENTARY SCIENCE

1. The drawings in general in the answer papers in Elementary Science were poor. It is evident that this phase of the subject is not receiving sufficient attention.

2. Questions dealing with the following subjects were well answered: Mushroom, structure of bird's foot, winter habits, comparison of grasshopper and spider, life history of insect, crayfish, earthworm, electrolysis, spectrum, liquid pressure and expansion, Boyle's Law, resonance.

3. In the first question, which deals with plant description, the drawings were poor and the descriptions incomplete and unsystematic. The great majority of the pupils misinterpreted the question and substituted a general discussion for the required answer.

4. Many candidates failed to show a clear, definite conception of the structure of the floret of a composite.

5. Many candidates who failed to answer correctly the question on classification tried to show the order to which the plant belonged. Few candidates answered correctly the second part of the question.

6. In answering the question dealing with the presence of carbon dioxide in air exhaled from the lungs, many imperfect and unworkable experiments were submitted.

7. In dealing with adaptations, candidates displayed ignorance of the very important subject of the relationship between form and function; for example, in dealing with the adaptation of the bird's foot for perching, very few showed definitely how the arrangement of the toes was fitted for this function.

8. The answers to the physiology experiments displayed three defects—faulty manipulation, careless recording, and absence of check experiments.

ARITHMETIC

The answer papers in Arithmetic showed the following defects:

1. The metric system has not been fully taught.
2. Business forms have not received sufficient attention.
3. Many teachers have made mensuration a memorization of formulae rather than an intelligent study.
4. Candidates are very inaccurate in the simple rules—50 per cent. of the failures were due to inaccuracy in mechanical work.

WRITING

1. The subject of Writing appears to be but indifferently taught in the majority of the schools. This is probably due to—
   (1) Lack of special training in writing on the part of many of those who teach the subject; also to lack of zeal.
   (2) Lack of appreciation of good handwriting on the part of principals and teachers in other departments. As their co-operation is often wanting, the subject receives but meagre consideration in the time-table and is neglected almost entirely by those who assign and mark the written exercises in other subjects.
2. Vertical and backhand forms of writing are used by some of the candidates. These the examiners regard as undesirable and the Department also disapproves of their use.
3. Many of the pupils are recommended by the teachers in writing, whose work does not merit such recommendation. This is apparent from the large percentage of poor writers at the examination.

ART

It was apparent that in many schools sufficient time and attention had not been given to Art to ensure the proper teaching of the subject. On the other hand, the not infrequent recurrence of a succession of good answer papers showed that in many others the subject had been well taught. The examiners who have served for several years are under the impression that there was a marked improvement in the character of the drawing in a larger number of centres. The answers to the questions on the Picture Study were very much more satisfactory than those of last year.

The following criticisms and suggestions are based upon mistakes or omissions frequently met with in the answers of the candidates:

1. The proper use of the drawing paper seems to be misunderstood. The rough side is intended for charcoal, coloured crayons, pencil, and water colours; the smooth, for brush and ink, and pen and ink.

2. In water colour technique pencil work should not show in the completed painting. White objects and high-lights should be indicated by the white paper—not by white paint. White paint, silver paint, and gold paint should be used only in certain problems in design.

3. Most candidates showed the need of more thorough training in the principles of freehand perspective. Few knew how to represent in properly proportioned ellipsis the plate and the tumbler of question 1. Few properly indicated the convergence of the receding lines of the napkin of question 1, or of the book of question 2.

4. Greater stress should be placed upon the proper use of the pencil (1) in drawing construction lines, (2) in tone drawing.

5. The relations of light and shade and shadow were often misunderstood or neglected.

In the expression of tone most candidates failed to appreciate relative values according to colour and distance, and a gradation of values dependent upon the source of light.

6. In the composition of a picture, in answer to question 4, there was shown a lack of knowledge of the following: the placing of the centre of interest; the proportioning of space relations; balance of areas, tone, lines; breaking of monotonous lines; the use of pointing lines; the use of leading lines, or lines which lead into the picture to give depth.

7. Due attention should be given to the requirements of decorative design, and of good lettering.

8. In arranging the groups for object drawing, it is often impossible for the presiding examiner to provide a suitable background. To prepare his candidates for this difficulty the teacher should carefully explain to his class the relation of the background to the objects to be drawn.

BOOK-KEEPING AND WRITING

Some of the candidates presented excellent answer papers in Book-keeping and Writing, but many showed an insufficient knowledge of interest, exchange, discounting notes, and the use of the cash book as a book of original entry. This insufficiency may have been caused by a lack of time devoted to the subject in school on the erroneous supposition that the standard of the examination would be as low as it was some years ago when the subject was obligatory.

HOUSEHOLD SCIENCE

1. In some cases the teaching of Household Science indicates a lack of knowledge of the principles underlying the work. On the other hand, in many schools, more stress should be laid on the practical side and less on the scientific.

2. The candidates have had insufficient practice in expressing their ideas in writing. Their answers are vague.

3. Some teachers, in their attempt to cover the entire course of study, have failed to be thorough. The candidates' answers show lack of review.

4. Very few of the candidates succeeded in reaching a high standard.

MANUAL TRAINING

1. Too many candidates showed evidence of incomplete preparation for the examination in Manual Training.

2. Candidates should provide themselves with all the necessary drawing instruments. The drawings cannot be satisfactorily made without them.

3. More attention should be given to geometrical construction which is the basis of mechanical drawing. Many candidates were not familiar with the construction of common geometrical forms.

4. More attention should be paid to the spelling of technical terms.

5. The answers in general were not specific enough. In many cases facts not asked for were given, while the essential point of the question was missed.

6. Many excellent drawings were given of the wrong object; for example, instead of the mortise and tenon joint, candidates gave drawings of other joints.

7. Several questions required free-hand sketches. In many cases these were not given and when given they were generally badly made.

AGRICULTURE AND HORTICULTURE

1. The subjects of the course in Agriculture and Horticulture seem to have been fairly well covered and, on the whole, the answers are creditable. The knowledge of arithmetic, however, seems to be very meagre.

2. The following defects apparent in these papers are not, however, uncommon in other subjects:

(1) Answers were frequently given to questions that had not been asked.

(2) The spelling of ordinary words relating to farm work was noticeably poor.

(3) The faulty arrangement of the answers was, perhaps, the most noticeable defect. Written tests well supervised should be frequently made.

Middle School Examinations

LITERATURE

The candidates' answers in Literature showed the following defects:

1. Some were too concise; others too diffuse.

2. In many answers there was a lack of neatness.

3. Many candidates paid little or no attention to sentence structure and punctuation.

4. A few continued to use abbreviations that should not be allowed in an examination in English Literature.

BRITISH AND CANADIAN HISTORY

In British and Canadian History there was an improvement in the answers, which were, on the whole, both comprehensive and fairly expressed.

The following defects, however, are still noticeable:

1. Considerable vagueness in the treatment of the geographical element in question 1. More class work with the school maps is evidently needed to supplement the text-book maps.

2. A tendency to answer in the tabulated rather than in the connected form. If this is due to the character of the teaching, it would indicate a false conception of the object of the study.

3. The answers in British showed better preparation than those in Canadian History.

ANCIENT HISTORY

1. The character of the answer papers in Ancient History indicates generally efficient teaching of the subject. There was, however, considerable difference in the papers in different bundles.

2. The Section was unanimously of the opinion that two periods per week for two years should be allowed in all schools in order to make due provision for the subject. Many schools allow only three, or in some cases two, periods per week for *one* year; it was felt that this was the cause of the vagueness, the confusion of events, and the lack of knowledge which marred a good many bundles.

3. The spelling of the proper names was uniformly bad.

4. The attempts made by candidates to draw sketch maps of Italy and Greece to take the place of the one accidentally omitted by the Department in connection with Question 1 would seem to indicate that this phase of the work is neglected. Many candidates had little or no idea of the outline of these countries, a good number even placing Greece west of Italy.

GEOMETRY

In the answer papers in Geometry the following defects were noticeable:

1. Many candidates failed to explain the expression "locus of a point" and to define some well-known lines as a *locus*. Their attempts would indicate that the term *locus* had not received adequate attention in class work.

2. Much of the constructive work was very inaccurate and poorly executed, evidently owing to the use of poor instruments and also to insufficient practice. This part of the course appeared to have been somewhat neglected.

3. In the use of geometrical terms, there was a lack of definiteness, for example, such terms as *theorem* and *problem, hypothesis* and *particular enunciation* were frequently confused.

ALGEBRA

1. In Algebra more attention should be given to the teaching of graphs. The positive and negative directions of the axes are frequently confused, lines joining plotted points are not accurately drawn through the points, and sometimes the axes are not even located.

2. More careful teaching of the subject of Ratio and Proportion is also necessary. A large number of the candidates assumed the equality they were asked to prove.

3. The Section is of the opinion that in some of the schools the subject of Algebra is not receiving its fair share of attention.

PHYSICS

The attention of teachers should be called to the necessity for giving their pupils supervised practice in writing accurate accounts of experiments. The raising of the standard of valuation also makes this very important.

CHEMISTRY

1. With the exception of 5 (*a*) (*b*) and 7 (*a*) (*b*), the questions in Chemistry on the whole were fairly well answered, but, in some cases the answers showed that the pupils were rushed over the course and had no time to review it properly.

2. The problem proved too difficult for the majority of the candidates.

3. The sketches of apparatus for collecting the gases in 2 (*b*) were in many cases inaccurate.

4. Teachers should not allow students to use the formula of a compound as a substitute for its name.

5. Where experiments are asked for, as in 2 (*c*), mere statements are of no value.

LATIN

1. In the answer papers in Latin, the examiners found a marked improvement in the declension of nouns and adjectives and in the conjugation of verbs; but more attention should be given to the declension of pronouns and pronominal adjectives.

2. The classification of infinitives and participles seems to be overlooked in many schools.

3. The translation from English into Latin was generally good. Often a candidate made more marks in the prose than in the grammar. Many failed in their attempt to use the passive periphrastic conjugation.

4. The translation of the Cæsar and the Virgil was good—better than usual. Many candidates, however, did not know how to translate into good English structure the long Latin period of Chap. 20, Book V.

5. In many schools the scansion of the Virgil appears to be neglected.

ART

1. The general quality of the work submitted is far in advance of that of last year. Pencil work is much improved. Historic ornament is better taught.

2. The decorative treatment of a subject, whether it be still life, flowers or landscape, is apparently not understood. One question on decorative landscape

(I.5) was not answered by more than one per cent. of the candidates. Very few candidates knew how to treat a given subject decoratively.

3. Drawing from life, (II.1) was a new departure; it proved a successful test.

4. The spelling was often bad.

5. The answers to the question on picture study were too minutely analytical; they should give the salient qualities of the picture and the method of composition which tells the story. Picture study should be taught for its appreciation of the beautiful and the way the subject has been caught on canvas by the artist, rather than as an unfeeling analysis of the parts.

6. In II, 5 (*d*) the school of artists and its tenets were evidently unknown to most of the candidates; not one per cent. of the candidates answered the question.

7. There is evident lack of teaching of the difference between skyline and eye level or horizon.

8. Pencil technique or handling should be improved. The use of a ruler on freehand drawings should not be allowed.

AGRICULTURE AND HORTICULTURE

The answer papers in Agriculture and Horticulture showed that the subjects of the second year of the course had been poorly covered. A "bookish" tendency was also manifest in both parts.

Upper School Examinations

ENGLISH COMPOSITION AND LITERATURE

1. The answer papers show that in many schools Composition is very well taught.

2. A considerable improvement is observable in the neatness of the answer papers in Literature. Teachers are evidently calling attention to the necessity for paragraphing, and for spacing and numbering the answers. There is, however, still room for improvement; the educational value of neatness and clearness in answering cannot be easily over-estimated.

3. Many of the candidates who failed to obtain forty per cent. in Literature omitted the question on memorization. The cultural value of memorizing fine passages in Literature should alone give such memory work a prominent place in the class-room exercises.

4. Numerous cases of faulty English and bad spelling were met and, in many instances, deductions for these causes made serious inroads on the candidate's marks. Evidently still greater attention to these subjects is urgently needed in the Lower School; such vulgar errors as "had went," "had have had," "had of had," "They laid down on the grass to rest," etc., are utterly inexcusable in the Upper School answer papers.

MEDIAEVAL AND MODERN HISTORY

1. From the answers in Mediæval and Modern History, the examiners concluded that the subject had been well taught. In the Honour work, some had been allowed to write whose answers showed that they had not made sufficient preparation for the examination.

2. On the War questions, the answers in some cases were vague. This may be accounted for by the fact that the subject is a wide one, and so much material has been at the disposal of the students that it is difficult to be concise. Guidance by the teacher is indispensable. To enable the competent teacher to give this, Section I of Circular No. 27A, "The War and the Schools," makes adequate provision.

MATHEMATICS

1. Many candidates who can readily find the logarithms of numbers from the tables, are unable to perform the converse operation and find the antilogarithms.

Last year the associate examiners reported that "there is a lack of systematic arrangement of the logarithmic work in the solution of triangles and problems." Teachers have not paid due attention to this criticism.

2. On the average, candidates answered the analytic part of the paper in Geometry rather better than the synthetic part.

CHEMISTRY AND BIOLOGY

1. In Honour Chemistry a great many candidates had been sent up who were not fit to pass, as evidenced by the fact that the answers in many cases indicated a very superficial knowledge of the subject and a lack of understanding of important chemical principles and relations.

2. Inaccuracy and in many cases absence of detail in diagrams and drawings in the various questions in Biology make it evident that the teachers in many schools do not give adequate attention to this branch of the subject.

3. The lack of thoroughness in the candidates' answers in Biology shows that generally insufficient time is devoted to preparation for the examinations.

LATIN

1. The work of the pupils in the idiomatic translation of Latin is improving perceptibly from year to year, and it is to be hoped that the teachers will continue to insist upon the pupil's rendering his Virgil, Horace, and Cicero not only into idiomatic English, but into free and smoothly running English.

2. The answers given to the questions on syntax show that there is a great variety of Grammar text-books in use, and this is no doubt responsible for the glib and rather inaccurate use of many terms; for example, "dative of reference," "dative of interest," "subjunctive of characteristic," etc.

3. The amount of time required to obtain an accurate translation of the work prescribed almost precludes the possibility of the pupils acquiring a desirable acquaintance with the points in mythology, history, and biography which constantly recur in their reading.

4. The scansion of both Virgil and Horace, generally speaking, is not good, although it is much better than in former years. More time should be put upon this phase of the course. The pupil seems to have learned by heart a scale of metre and to have tried to fit it to the particular line, with results which are sometimes ludicrously inaccurate.

5. The spelling of the proper names is very poor. - Why can not a systematic effort be made to drill pupils from time to time in the accurate spelling of the names of men and places, both in Ancient History and in the prescribed texts in Latin and Greek?

6. While there has been a remarkable improvement in the character of the work done in Composition, there is still room for more, especially in the rendering of the "continuous" idiomatic English into Latin. Not enough drill is being given on the translation of *ideas* rather than *words;* so that many good candidates, whose knowledge of Latin constructions shows them capable of better work, lack acquaintance with the idioms, and translate literally such phrases as "drawing back from the town," "the fortress fell," "he made them go," "they gave ground," "they pressed forward," etc.

Matriculation

HISTORY

The answers in History this year were, on the whole, more satisfactory than usual. There are still, however, too many candidates who give brief summaries instead of connected answers. Pupils should be required to give due attention to Composition for their History examinations as well as for their literature and composition examinations.

GEOMETRY

In the following report the questions have been taken in order and the criticisms given under each:—

1. Many candidates disregarded the instructions and evidently got the 60° angle with either a protractor or a set-square. Parallels were drawn by following the ruled lines and lines bisected by using a graduated ruler. Teachers in the higher Forms should encourage pupils to make constructions with ruler and compasses as well as with set-square and protractor, and *hard lead pencils should be used.*

2. Fairly well answered by most candidates, very well by many, but too many made very poor figures. Evidently many candidates are not accustomed to the use of instruments.

3. The usual mistakes about projection were frequently met with.

4. On the whole this question was very well answered.

5. Quite a number confused this theorem with its converse. Very many described the superposition badly. It does not follow that if point D be placed on point A, DE will fall on AB and DF on AC because angle D equals angle A.

6. Very well answered by most. Some did not notice that the last part should be proved.

7. On many papers the figures were very poor. In all problems accurate constructions should be required. To compensate for the extra time required, a written description might often be dispensed with, provided the necessary auxiliary construction lines are put in and *left in.* Proofs should be required.

Many candidates confused this problem with the circumscription problem and produced the base of the triangle both ways, and, strange to say, few of them discovered the error when they came to the proof.

8. This was very well answered by most candidates.

9. Answers satisfactory on the whole, but many candidates thought it necessary to prove both pairs of the opposite angles supplementary before drawing the conclusion. One, apparently influenced by the weather, proved the four points cyclonic, and another clinched her argument by adding "So there" at the end of her proof.

The following general remarks are added to the above criticisms:

(1) Figures should be drawn with lead pencils.
(2) Candidates should not copy out general enunciations.
(3) Particular enunciations should be given.
(4) The figures should not be put on one page and the demonstration or part of it on the next when it can be avoided.

PHYSICS

In the following report the questions have been taken in order, and the criticisms have been placed accordingly:

1. (*a*) The answers were satisfactory.
   (*b*) Many of the candidates had not read the question properly.
2. (*a*) The answers were quite satisfactory.
   (*b*) The candidates were generally unfamiliar with a thermos bottle. In a few cases only was there evidence of its having been examined by the candidates.
3. (*a*) (*b*) The answers were satisfactory.
4. The answers were better than those to any other question on the paper.
5. (*a*) In most cases the candidates had a clear idea of the position of the image.
   (*b*) This was only fairly answered.
6. (*a*) (*b*) The candidates' ideas here were rather confused, indicating lack of practical work.
   (*c*) Very few candidates had had an opportunity of handling a radioactive substance.
7. (*a*) Very few candidates referred to the dissociation of sulphuric acid in water.
   (*b*) A great many candidates omitted the contra E.M.F. and gave resistance only.
8. Candidates showed great confusion in the application of the laws of resistance to this question.

CHEMISTRY

In the following report also the questions have been taken in order, and the criticisms have been placed accordingly:

1. (*a*) ii. In their observations candidates omitted the reduction of iron rust to produce black residue.
   iii. Many failed to make two observations, viz., in the brown fumes and the liquid, being satisfied with one only.
   (*b*) Many could not distinguish between an oxidizing and a reducing agent,
   (*c*) The majority substituted for coke, as the reducing agent, carbon, coal, and charcoal.
2. (*a*) The answers showed a lack of detail in the preparation of chlorine, the mode of collection being often omitted.
   (*b*) The candidates showed a lack of familiarity with the metric units and with the weight of 22.4 litres of chlorine.
3. (*a*) Candidates failed to note that soft coal is used in the preparation of coal gas.
   In the preparation of acetylene, the apparatus was omitted.
   In the preparation of water gas, the alternation of passing steam and air over coke was generally omitted; also coal was frequently used in place of coke.
   (*b*) Only a very few candidates had a correct equation or could apply Avogadro's Law.
   (*c*) Most omitted the poisonous nature of carbon monoxide and gave instead the explosive properties of the gas when mixed with air.

4. Candidates were simply expected to state how the percentage composition and density of the gas may be determined.

6. Candidates failed to grasp what was asked in this question. Chemical actions, preparations, and uses were given in place of simple physical descriptions.

In general, where two or more observations were required, candidates were satisfied to give one.

CLASSICS

1. The translation of Cæsar and Virgil is often defective. More care should be exercised by teachers in rejecting all slipshod renderings, whether written or oral. In the Virgil special attention should be paid to the connection of thought.

2. The use of terms to define the forms and relations of words should be more carefully taught; for instance, in accounting for the mood of *abesse* in the sentence (*naves*) *longas duodetriginta invenit instructas neque multum abesse ab eo,* it was found that candidates in numerous cases described *abesse* as an "indicative and infinitive" mood form.

3. Candidates in Greek are not careful in their use of the breathings.

GERMAN

There has been a marked improvement generally in the candidates' German this year compared with that of last year, but teachers should stress the following in their work:

1. The translation of progressive verb phrases; for example, "He was smoking," was this year frequently translated by *Es war rauchend.*

2. On purpose phrases; of these the candidates seemed to have a very hazy idea; for example, "She went to buy the dog some meat." See ging aus, *zu kaufen den* Hund *das* Fleisch.

3. The declension of adjectives.

Such expressions as *keiner andere Acker* and *blauen Augen* were frequently found.

4. The government of prepositions; *für* very often governed the Dative; for example, *für Kindern, für klugen Studenten.*

5. A clearer distinction of words such as, *Gesicht, Gedicht, Geschichte; so* and *also; wenn* and *als; dann* and *denn; für* and *denn; Mund* and *Mond; Lied* and *Leid; wissen* and *kennen* and *können; aufgehen, aufstehen, aufsteigen; Tür* and *Tor.*

6. Candidates frequently gave alternative answers, showing their lack of knowledge as to which is correct; for example, *des Morgens* and *jeden Morgen,* and *Das Haus ist gebaut worden* and *Das Haus wurde gebaut.*

7. Stress should be laid on the spelling of words which have an umlaut.

8. The candidate should also bear in mind that irregular verbs with "a" in the root take the umlaut in 2nd and 3rd sing; for example, *fahren; er fährt; schlagen; er schlägt; tragen; er trägt; schlafen; er schläft.*

9. Certain important verbs governing the Dative Case should be stressed. Examples are—*begegnen helfen, danken, folgen.*

10. The pluralization of nouns and parts of verbs in the Authors deserve more attention.

11. Such small words as *auch, nur, schon, doch fort, nun,* were often ignored in the translation into English.